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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,650	08/28/2003	Thomas Maciag	53689500203	7281
23973	7590	11/24/2006	EXAMINER	
DRINKER BIDDLE & REATH ATTN: INTELLECTUAL PROPERTY GROUP ONE LOGAN SQUARE 18TH AND CHERRY STREETS PHILADELPHIA, PA 19103-6996			KAUFMAN, CLAIRE M	
			ART UNIT	PAPER NUMBER
			1646	
DATE MAILED: 11/24/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/650,650	MACIAG ET AL.	
	Examiner	Art Unit	
	Claire M. Kaufman	1646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 18 September 2006.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 17-19,21-26,29-31 and 42-44 is/are pending in the application.
 4a) Of the above claim(s) 25,30 and 31 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 17-19,21-24,26,29 and 42-44 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) 17-19,21-26,29-31 and 42-44 are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

The rejection of claims under 35 USC 102(b) as anticipated by US 6,004,924 (Ish-Horowicz et al.) is withdrawn because SEQ ID NO:6 of the patent is not identical to SEQ ID NO:18 of the instant application at positions 1040 and 1053, and the patent is cannot be applied under 35 USC 102(b) as pointed out by Applicants in their response. Therefore, it does not meet the limitations of the claim.

Claims

Claims 42 and 43 are objected to because of the following informalities: In claim 42, in line 2, “angiogenic” should be --angiogenically--; in claim 43, line 2, “differentiation effective amount” should be --amount effective for differentiation--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 17 and 18 and dependent claims 19, 21-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 17 and 18 are indefinite because they recite “encoded by the nucleic acid sequence comprising....” This is open language and encompasses many nucleic acid sequences, with the requirement that they comprise a particular sequence, instead of one unique sequence. This rejection could be obviated by substituting “a” for “the” so that the claim reads: “...encoded by a nucleic acid sequence comprising....”

Priority

The instant application claims priority as a DIV of 09/579,536, which is a CIP of 09/199,865. SEQ ID NO:18 and a sequence comprising least amino acids 1-1067 of SEQ ID NO:1 do not appear in priority application 09/199,865 (see attached SEQUENCE

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COMPARISON). SEQ ID NO:18 does appear in 09/579,536. Necessarily SEQ ID NO:17 also does not appear in 09/199,865. Therefore, the instant claims only receive benefit of priority to 09/579,536, giving the instant application an effective filing date of 5/24/00 for the instantly claimed invention.

It is noted that the claims are drawn to a polypeptide not a nucleic acid.

For claims 42-44 it is noted that (*In re Ngai*, 367 F.3d 1336, 1339, 70 USPQ2d 1862, 1864 (Fed. Cir. 2004)) combining printed instructions and an old product into a kit will not render the claimed invention nonobvious even if the instructions detail a new use for the product.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 26 is rejected under 35 USC 102 (e) as being anticiapted by US 6,004,924 (Ish-Horowicz et al.).

US 6,004,924 teaches a pharmaceutical composition comprising an isolated soluble Jagged polypeptide (see claim 67). Also taught is the pharmaceutical composition comprising a pharmaceutically acceptable carrier (paragraph beginning at col. 37, line 35).

Claims 17-19, 21 and 26 are rejected under 35 U.S.C. 102(e) as being anticiapted by US 6,337,387 (Sakano et al.).

US 6,337,387 teaches the polypeptide of SEQ ID NO:11, which comprises SEQ ID NO:18 of the instant application and is the same as amino acids 1-1067 of SEQ ID NO:1 of the instant application. This polypeptide is necessarily encoded by any number of degenerate

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sequences, including nucleotides 1-3201 of SEQ ID NO:2 of the instant application. See attached “387 SEQUENCE COMPARISON”. Additionally a composition comprising a soluble Jagged polypeptide in a pharmaceutically acceptable carrier is taught (col. 29, lines 11-17 and col. 25, lines 15-34, see SEQ ID NO:7 also)

Claims 17-19, 21-23, 26 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,136,952 (Li et al.).

US 6,136,952 teaches the polypeptide of SEQ ID NO: 2 which comprises SEQ ID NO:18 of the instant application and is the same as amino acids 1-1067 of SEQ ID NO:1 of the instant application. This polypeptide is necessarily encoded by any number of degenerate sequences, including nucleotides 1-3201 of SEQ ID NO:2 of the instant application. See attached “952 SEQUENCE COMPARISON”. Also taught is a soluble Jagged polypeptide (col. 9, lines 9-17 and lines 48-45). The polypeptide, including a soluble Jagged, is also taught as tagged with, for example, glutathione-S-transferase (col. 11, lines 41-55). Also taught are pharmaceutical compositions comprising a soluble jagged polypeptide, including one that comprises SEQ ID NO:18 of the instant application, and which necessarily contains a pharmaceutically acceptable carrier as indicated by the therapeutic use (e.g., col. 16, lines 42-59).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 22-24 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,337,387 (Sakano et al.) as applied to claims 17-19, 21 and 26 above and further in view of US 6,117,976 (Neri et al.).

US 6,337,387 also teaches a Jagged polypeptide fused to a FLAG tag or human IgG1 Fc region (col. 25, lines 14-56). This patent does not teach a polypeptide comprising SEQ ID NO:18 of the instant application fused to a tag polypeptide.

US 6,117,976 teaches manufacture of tagged polypeptides and lists tags, including the myc tag. The myc tag was originally constructed and published on in 1986, and recognizes a specific antibody and is useful in, e.g., purification or immunocytochemical studies (col. 1, lines 36-43 and col. 2 lines 38-45).

It would have been obvious to the artisan of ordinary skill at the time the invention was made to have not only the Jagged polypeptide of SEQ ID NO:7 but also of SEQ ID NO:11 tagged with any of a variety of tags including a myc tag since the polypeptides are highly related. One would have been motivated to do this because US 6,117,976 teaches the usefulness of myc tagged polypeptides and making myc tagged polypeptides was old and well known in the art.

Claims 24 and 42-44 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,136,952 (Li et al.) as applied to claims 17-19, 21-23, 26 and 29 above and further in view of US 6,117,976 (Neri et al.).

US 6,136,952 teaches a soluble active Jagged fragment can inhibit differentiation of hematopoietic progenitor cells (col. 13, lines 54-56, and col. 14, lines 23-34), which can be useful in cell transplantation (col. 15, lines 43-54). It does not teach a myc tagged Jagged polypeptide of SEQ ID NO:2 (of the patent) nor a kit comprising the a soluble Jagged polypeptide and an applicator.

US 6,117,976 teaches manufacture of tagged polypeptides and lists tags, including the myc tag. The myc tag was originally constructed and published on in 1986, and recognizes a specific antibody and is useful in, e.g., purification or immunocytochemical studies (col. 1, lines 36-43 and col. 2 lines 38-45).

It would have been obvious to the artisan of ordinary skill at the time the invention was

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made to have not only a soluble form of the Jagged polypeptide of SEQ ID NO:2 but also one that was tagged with any of a variety of tags including a myc tag. One would have been motivated to do this because US 6,136,952 discusses soluble Jagged, which would have been recognized as having the advantage of not needing to be membrane bound in order to bind Notch or another polypeptide, and because US 6,117,976 teaches the usefulness of myc tagged polypeptides and making myc tagged polypeptides was old and well known in the art. It further would have been obvious to have in a kit not only the soluble jagged polypeptide, but also an applicator since the invention has both therapeutic and diagnostic uses. Because the polypeptide cannot be moved without aid from the kit to a sample or animal, it must be applied/administered with something. The inclusion of that something with the kit would have been obvious to ensure proper transfer from the kit to the sample or animal.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Claire M. Kaufman, whose telephone number is (571) 272-0873. Dr. Kaufman can generally be reached Monday, Tuesday, Thursday and Friday from 9:30AM to 2:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Nickol, can be reached at (571) 272-0835.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (571) 272-1600.

Official papers filed by fax should be directed to (571) 273-8300. NOTE: If applicant does submit a paper by fax, the original signed copy should be retained by the applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers in the Office.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Claire M. Kaufman, Ph.D.



Patent Examiner, Art Unit 1646

November 20, 2006

SEQUENCE COMPARISON '952

; Sequence 2, Application US/08882046
; Patent No. 6136952
; GENERAL INFORMATION:
; APPLICANT: Li, Linheng
; APPLICANT: Hood, Leroy
; APPLICANT: Krantz, Ian D.
; APPLICANT: Spinner, Nancy B.
; TITLE OF INVENTION: Human Jagged Polypeptide, Encoding
; TITLE OF INVENTION: Nucleic Acids and Methods of Use
; NUMBER OF SEQUENCES: 110
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/882,046
; FILING DATE: 25-JUN-1997
; CLASSIFICATION: 536
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1218 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-882-046-2

Query Match 99.9%; Score 7058; DB 2; Length 1218;
Best Local Similarity 99.9%; Pred. No. 0;
Matches 1217; Conservative 0; Mismatches 1; Indels 0; Gaps
0;

Qy 1 MRSPRTRGRSGRPLSLLLALLCALRAKVCAGSQFELEILSMQNNGELQNGNCCGGARN 60
 ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
Db 1 MRSPRTRGRSGRPLSLLLALLCALRAKVCAGSQFELEILSMQNNGELQNGNCCGGARN 60

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Qy 61 PGDRKCTRDECPTYFKVCLKEYQSRVTAGGPCSFGSGSTPVIGGNTFNLKASRGNDRNRI 120
|||
Db 61 PGDRKCTRDECPTYFKVCLKEYQSRVTAGGPCSFGSGSTPVIGGNTFNLKASRGNDRNRI 120
|||
Qy 121 VLPFSFAWPRSYTLLVEAWDSSNDTVQPD\$IIEKASHSGMINPSRQWQLKONTGVAHFE 180
|||
Db 121 VLPFSFAWPRSYTLLVEAWDSSNDTVQPD\$IIEKASHSGMINPSRQWQLKONTGVAHFE 180
|||
Qy 181 YQIRVTCDDYYYGFGCNKFCRPRDDFFGHYACDQNGNKTCMEGWMGPECNRAlCRQGCSP 240
|||
Db 181 YQIRVTCDDYYYGFGCNKFCRPRDDFFGHYACDQNGNKTCMEGWMGPECNRAlCRQGCSP 240
|||
Qy 241 KHGSCKLPGDCRCQYGWQGLYCDKCIIPHGVHGICNEPWQCLCETNWGGQLCDKDLNYC 300
|||
Db 241 KHGSCKLPGDCRCQYGWQGLYCDKCIIPHGVHGICNEPWQCLCETNWGGQLCDKDLNYC 300
|||
Qy 301 GTHQPCLNNGGTCNTGPDKYQCSCPEGYSGPNCEIAEHACLSDPCHNRGSKETSLGFEC 360
|||
Db 301 GTHQPCLNNGGTCNTGPDKYQCSCPEGYSGPNCEIAEHACLSDPCHNRGSKETSLGFEC 360
|||
Qy 361 ECSPGWTGPTCSTNIDDCSPNNCSHGGTCQDVLVNGFKCVCPPQWTGKTCQLDANECEAKP 420
|||
Db 361 ECSPGWTGPTCSTNIDDCSPNNCSHGGTCQDVLVNGFKCVCPPQWTGKTCQLDANECEAKP 420
|||
Qy 421 CVNAKSKNLIASYYCDCLPGWMGQNCDININDCLGQCQNDASCRLVNGYRICCPPGYA 480
|||
Db 421 CVNAKSKNLIASYYCDCLPGWMGQNCDININDCLGQCQNDASCRLVNGYRICCPPGYA 480
|||
Qy 481 GDHCERDIDECA\$NPCLNNGHCQNEINRFQCLCP\$GNLCQLIDIDYCEPNPCQNGAQC 540
|||
Db 481 GDHCERDIDECA\$NPCLNNGHCQNEINRFQCLCP\$GNLCQLIDIDYCEPNPCQNGAQC 540
|||
Qy 541 YNRASDYFCKCPEDYEGKNCSHLKDHCRTTPCEVIDSCTVAMASNDTPEGVRYISSNVCG 600
|||
Db 541 YNRASDYFCKCPEDYEGKNCSHLKDHCRTTPCEVIDSCTVAMASNDTPEGVRYISSNVCG 600
|||
Qy 601 PHGKCKSQSGGKFTCDCNKGFTGTYCHENINDCESN\$C\$RNGGT\$C\$DGWE 660
|||
Db 601 PHGKCKSQSGGKFTCDCNKGFTGTYCHENINDCESN\$C\$RNGGT\$C\$DGWE 660
|||
Qy 661 GAYCETNINDCSQNPCHNGGTCRDLVNDFYCDCKNGWKGKTC\$RSQ\$CDEATCNNGTC 720
|||
Db 661 GAYCETNINDCSQNPCHNGGTCRDLVNDFYCDCKNGWKGKTC\$RSQ\$CDEATCNNGTC 720
|||
Qy 721 YDEGDAFKCMCPGGWEGTTNCIARNSSCLPNPCHNGGTCV\$NGESFTCVCKEGWEGPICA 780
|||
Db 721 YDEGDAFKCMCPGGWEGTTNCIARNSSCLPNPCHNGGTCV\$NGESFTCVCKEGWEGPICA 780
|||
Qy 781 QNTNDCS\$PHPCYNSGTCVDGDNWYRCECAPGFA\$PDRININECQSSPCAFGATCVDEIN 840
|||
Db 781 QNTNDCS\$PHPCYNSGTCVDGDNWYRCECAPGFA\$PDRININECQSSPCAFGATCVDEIN 840
|||
Qy 841 GYRCVCPGHS\$GAKCQEVS\$RPCITMGSVI\$DGAKWDDDCNTCQCLN\$RIACSKVWC\$PR 900
|||
Db 841 GYRCVCPGHS\$GAKCQEVS\$RPCITMGSVI\$DGAKWDDDCNTCQCLN\$RIACSKVWC\$PR 900
|||
Qy 901 PCLLHKGHSECPSGQ\$CIPILDDQCFVHPCTGVGE\$CRSSSLQPVKTKCTS\$DSYYQDN\$CAN 960
|||
Db 901 PCLLHKGHSECPSGQ\$CIPILDDQCFVHPCTGVGE\$CRSSSLQPVKTKCTS\$DSYYQDN\$CAN 960

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Qy 961 ITFTFNKEMMSPGLTTEHICSELRLNLILKNVSAEYIYIACEPSPSANNEIHVAISAED 1020
 |||||||
 Db 961 ITFTFNKEMMSPGLTTEHICSELRLNLILKNVSAEYIYIACEPSPSANNEIHVAISAED 1020
 |||||||
 Qy 1021 IRDDGNPIKEITDKIIDLVSKRGNSSLIAAVAEVRVQRRPLKNRTDFLVPLLSSVLTVA 1080
 |||||||
 Db 1021 IRDDGNPIKEITDKIIDLVSKRGNSSLIAAVAEVRVQRRPLKNRTDFLVPLLSSVLTVA 1080
 |||||||
 Qy 1081 WICCLVTAFYWCLRKRKPGSHTHSASEDNTNNVREQLNQIKNPIEKHGANTVPIKDYE 1140
 |||||||
 Db 1081 WICCLVTAFYWCLRKRKPGSHTHSASEDNTNNVREQLNQIKNPIEKHGANTVPIKDYE 1140
 |||||||
 Qy 1141 NKNKMSKIRTHNSEVEEDDMDKHQHQKARFGKQPAYTLVDREEKPPNGTPTKHPNWTNKQ 1200
 |||||||
 Db 1141 NKNKMSKIRTHNSEVEEDDMDKHQHQKARFAKQPAYTLVDREEKPPNGTPTKHPNWTNKQ 1200
 |||||||
 Qy 1201 DNRDLESAQSLNRMEYIV 1218
 |||||||
 Db 1201 DNRDLESAQSLNRMEYIV 1218

SEQUENCE COMPARISION ' 387

US-09-068-740A-11

; Sequence 11, Application US/09068740A
 ; Patent No. 6337387
 ; GENERAL INFORMATION:
 ; APPLICANT: SAKANO, SEIJI
 ; APPLICANT: ITOH, AKIRA
 ; TITLE OF INVENTION: DIFFERENTIATION-SUPPRESSIVE POLYPEPTIDE
 ; CURRENT APPLICATION NUMBER: US/09/068,740A
 ; CURRENT FILING DATE: 1998-06-18
 ; PRIOR APPLICATION NUMBER: JP 7-299611
 ; PRIOR FILING DATE: 1995-11-17
 ; PRIOR APPLICATION NUMBER: JP 7-311811
 ; PRIOR FILING DATE: 1995-11-30
 ; PRIOR APPLICATION NUMBER: PCT/JP96/03356
 ; PRIOR FILING DATE: 1996-11-15
 ; NUMBER OF SEQ ID NOS: 48
 ; SOFTWARE: PatentIn Ver. 2.1
 ; SEQ ID NO 11
 ; LENGTH: 1218
 ; TYPE: PRT
 ; ORGANISM: Homo sapiens

US-09-068-740A-11

Query Match 99.9%; Score 7058; DB 2; Length 1218;
 Best Local Similarity 99.9%; Pred. No. 0;
 Matches 1217; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MRSPRTRGRSGRPLSLLLALLCALRAKVCAGSQFELEILSMQNNGELQNGNCCGGARN 60
 |||||||
 Db 1 MRSPRTRGRSGRPLSLLLALLCALRAKVCAGSQFELEILSMQNNGELQNGNCCGGARN 60
 |||||||
 Qy 61 PGDRKCTRDECCTYFKVCLKEYQSRVTAGGPCSFSGGSTPVIGGNTFNLKASRGNDRNRI 120
 |||||||
 Db 61 PGDRKCTRDECCTYFKVCLKEYQSRVTAGGPCSFSGGSTPVIGGNTFNLKASRGNDRNRI 120

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Qy 121 VLPFSFAWPRSYTLLVEAWDSSNDTVQPD\$IIEKASHSGMINPSRQWQTLKQNTGVAHFE 180
 |||||
 Db 121 VLPFSFAWPRSYTLLVEAWDSSNDTVQPD\$IIEKASHSGMINPSRQWQTLKQNTGVAHFE 180

Qy 181 YQIRVTCDDYYYYFGCNKFCRPRDDFFGHYACDQNGNKTCEGMGPECNRACRQGCSP 240
 |||||
 Db 181 YQIRVTCDDYYYYFGCNKFCRPRDDFFGHYACDQNGNKTCEGMGPECNRACRQGCSP 240

Qy 241 KHGSCKLPGDCRCQYGWQGLYCDKCI PHPGVHGICNEPWQCLCETNWGGQLCDKDLNYC 300
 |||||
 Db 241 KHGSCKLPGDCRCQYGWQGLYCDKCI PHPGVHGICNEPWQCLCETNWGGQLCDKDLNYC 300

Qy 301 GTHQPCLNGGTCNTGPDKYQCSCPEGYSGPNCEIAEHACLSDPCHNRGSKETSLGFEC 360
 |||||
 Db 301 GTHQPCLNGGTCNTGPDKYQCSCPEGYSGPNCEIAEHACLSDPCHNRGSKETSLGFEC 360

Qy 361 ECSPGWTGPTCSTNIDDCSPNNCSHGGTCQDLVNGFKCVCPPQWTGKTCQLDANECEAKP 420
 |||||
 Db 361 ECSPGWTGPTCSTNIDDCSPNNCSHGGTCQDLVNGFKCVCPPQWTGKTCQLDANECEAKP 420

Qy 421 CVNAKSKNLIASYYCDCLPGWMGQNCDININDCLGQCQNDASCRLDVNGYRCICPPGYA 480
 |||||
 Db 421 CVNAKSKNLIASYYCDCLPGWMGQNCDININDCLGQCQNDASCRLDVNGYRCICPPGYA 480

Qy 481 GDHCERDIDECASNPCLNGGHCQNEINRFQCLCPFGSGNLQCLIDYCEPNPCQNGAQC 540
 |||||
 Db 481 GDHCERDIDECASNPCLNGGHCQNEINRFQCLCPFGSGNLQCLIDYCEPNPCQNGAQC 540

Qy 541 YNRASDYFCKCPEDYEGKNCSHLKDHCRTPCEVIDSCTVAMASNDTPEGVRYISSNVCG 600
 |||||
 Db 541 YNRASDYFCKCPEDYEGKNCSHLKDHCRTPCEVIDSCTVAMASNDTPEGVRYISSNVCG 600

Qy 601 PHGKCKSQSGGKFTCDCNKGFTGTYCHENINDCESNPCRNGGTIDGVNSYKCICSDGWE 660
 |||||
 Db 601 PHGKCKSQSGGKFTCDCNKGFTGTYCHENINDCESNPCRNGGTIDGVNSYKCICSDGWE 660

Qy 661 GAYCETNINDCSQNPCHNGGTCRDLVNDFYCDCCKNGWKGKTCHSRDSQCDEATCNNGTC 720
 |||||
 Db 661 GAYCETNINDCSQNPCHNGGTCRDLVNDFYCDCCKNGWKGKTCHSRDSQCDEATCNNGTC 720

Qy 721 YDEGDAFKCMCPGGWEGTTNCIARNSSCLPNPCHNGGTCVVNGESFTCVCKEGWEGPICA 780
 |||||
 Db 721 YDEGDAFKCMCPGGWEGTTNCIARNSSCLPNPCHNGGTCVVNGESFTCVCKEGWEGPICA 780

Qy 781 QNTNDCSPHPCYNSGTCVDGDNWYRCECAPGFAGPDRININECQSSPCAFGATCVDEIN 840
 |||||
 Db 781 QNTNDCSPHPCYNSGTCVDGDNWYRCECAPGFAGPDRININECQSSPCAFGATCVDEIN 840

Qy 841 GYRCVCPGHSAGAKCQEVSGRPCITMGSVIPDGAKWDDDCNTCQCLNRIACSKVWCGR 900
 |||||
 Db 841 GYRCVCPGHSAGAKCQEVSGRPCITMGSVIPDGAKWDDDCNTCQCLNRIACSKVWCGR 900

Qy 901 PCLLHKGHSECPSGQSCIPILDDQCFVHPCTGVGECRSSSLQPVTKCTSDSYYQDNCAN 960
 |||||
 Db 901 PCLLHKGHSECPSGQSCIPILDDQCFVHPCTGVGECRSSSLQPVTKCTSDSYYQDNCAN 960

Qy 961 ITFTFNKEMMSPGLTTEHICSELRLNLNILKNSAEYSIYIACEPSPSANNEIHVAISAED 1020
 |||||
 Db 961 ITFTFNKEMMSPGLTTEHICSELRLNLNILKNSAEYSIYIACEPSPSANNEIHVAISAED 1020

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Qy 1021 IRDDGNPIKEITDKIIDLVSKRGNSSLIAAVAEVRVQRRPLKNRTDFLVPLLSSVLTVA 1080
|||
Db 1021 IRDDGNPIKEITDKIIDLVSKRGNSSLIAAVAEVRVQRRPLKNRTDFLVPLLSSVLTVA 1080
|||
Qy 1081 WICCLVTAFYWCLRKRRPGSHTHSASEDNTNNVREQLNQIKNPIEKHGANTVPIKDYE 1140
|||
Db 1081 WICCLVTAFYWCLRKRRPGSHTHSASEDNTNNVREQLNQIKNPIEKHGANTVPIKDYE 1140
|||
Qy 1141 NKNSKMSKIRTHNSEVEEDDMDKHQQKARFGKQPAYTLVDREEKPPNGTPTKHPNWTNKQ 1200
|||
Db 1141 NKNSKMSKIRTHNSEVEEDDMDKHQQKARFAKQPAYTLVDREEKPPNGTPTKHPNWTNKQ 1200
|||
Qy 1201 DNRDLESAQSLNRMEYIV 1218
|||
Db 1201 DNRDLESAQSLNRMEYIV 1218